$$A_i = \int_a^b l_i(x)\,dx$$

$$l_i(x) = \prod_{\substack{j=0 \\ j\neq i}}^{n} \frac{(x-x_j)}{(x_i-x_j)}\,dx$$

$$A_i = \int_a^b \prod_{\substack{j=0 \\ j\neq i}}^{n} \frac{(x-x_j)}{(x_i-x_j)}\,dx$$

se sabe:

$$(-)\begin{cases} x = x_0 + hs \\ x_j = x_0 + h.j \end{cases}$$

$$x - x_j = h(s-j) \quad \Big\} d(\ )$$

$$dx = h\,ds$$

$$(-)\begin{cases} x_i = x_0 + ih \\ x_j = x_0 + jh \end{cases}$$

$$x_i - x_j = (i-j)h$$